AMENDMENT NO. 1 OCTOBER 2023

TO

IS 1885 (Part 712) : 2021/IEC 60050-712 : 1992 ELECTROTECHNICAL VOCABULARY

PART 712 ANTENNAS

This Amendment No. 1 is identical with Amendment No.1 of 'IEC 60050-712 : 1992 International Electrotechnical Vocabulary (IEV) — Part 712: Antennas' published in 2021 issued by the International Electrotechnical Commission (IEC).

Price Group 2

Part 712

Replace IEV 712-02-33, IEV 712-02-34, IEV 712-02-43, IEV 712-02-51, IEV 712-02-52, IEV 712-02-53, IEV 712-02-55, IEV 712-02-56, IEV 712-03-13, IEV 712-04-59, IEV 712-05-82, IEV 712-06-03, IEV 712-06-11 and IEV 712-06-22 by the following:

712-02-33

beamwidth, <of an antenna>

in a specified plane containing the direction of maximum radiation or the axis of symmetry of a beam or a radiation lobe, angle between two directions (corresponding, for example, to a given fraction of the maximum radiation or to the first minimums) on both sides of this direction or axis

Note 1 to entry: The most generally used fraction is half-power beamwidth.

Note 2 to entry: The term "beamwidth" has different meanings in optical fibre communication (see IEV 731-01-35) and the field of ultrasonics (see IEV 802-01-20).

712-02-34

electrical boresight

axis of an antenna determined by its radiation properties

EXAMPLE The null direction of a conical scanning or monopulse antenna system, the beam axis of a highly directional antenna.

712-02-43

absolute gain, <of an antenna>
isotropic gain, <of an antenna>

ratio, generally expressed in decibels, of the radiation intensity produced in a given direction by an antenna to the radiation intensity that would be obtained if the power accepted by the antenna were radiated equally in all directions

Note 1 to entry: If no direction is specified, the direction of maximum radiation intensity from the given antenna is implied.

Note 2 to entry: When the absolute gain is expressed in decibels, the notation dBi is recommended by the International Telecommunication Union as a unit symbol.

Note 3 to entry: The radiation intensity from an antenna in a given direction is the power radiated per unit solid angle.

Note 4 to entry: If the antenna is lossless its absolute gain is equal to its directivity in the same direction.

712-02-51

equivalent isotropically radiated power
EIRP

product of the power supplied by a radio transmitter to an antenna and the absolute gain of the antenna in a given direction

712-02-52

effective radiated power, <with respect to a half-wave dipole>
ERP, <with respect to a half-wave dipole>

product of the power supplied by a radio transmitter to an antenna and the relative gain of the antenna in a given direction, with respect to a half-wave dipole

Note 1 to entry: The use of the quantity equivalent isotropically radiated power (referring to absolute gain) is preferable to that of the quantity effective radiated power (referring to relative gain).

Note 2 to entry: The term "effective radiated power" is also used when the reference antenna is not a half-wave dipole (see IEV 161-04-16).

712-02-53

effective monopole radiated power
EMRP

product of the power supplied by a radio transmitter to an antenna and the gain of this antenna relative to a short vertical antenna in a given direction

712-02-55

G/T

figure of merit, <of an antenna>

quotient, usually expressed in logarithmic units, of the absolute gain G of an antenna to its noise temperature T referred to the antenna terminals at a specified frequency and in specified conditions of installation and operation

Note 1 to entry: If the noise temperature is expressed in kelvins and the gain as a power ratio, the quantity 10 log G/T is expressed in a unit designated by the symbol dB (K^{-1}), sometimes written incorrectly dBK.

Note 2 to entry: In English, the term "figure of merit" has different meanings in relation to antenna receiving systems (see IEV 712-02-56), transductors (see IEV 431-02-15) and piezoelectric and dielectric resonators (see IEV 561-01-26).

Note 3 to entry: In French, the term "facteur de qualité" has a different meaning for a two-terminal element or circuit (see IEV 151-15-45), for a resonant circuit (see IEV 151-15-46), for radiation protection purposes (see IEV 395-01-39), in relation to antenna receiving systems (see IEV 712-02-56), and in radiology (see IEV 881-14-03).

712-02-56

G/T

figure of merit, <of an antenna receiving system>

quotient, usually expressed in logarithmic units, of the absolute gain G of an antenna by the antenna-receiver noise temperature T referred to the antenna terminals at a specified frequency and in specified conditions of installation and operation

Note 1 to entry: If the noise temperature is expressed in kelvins and the gain as a power ratio, the quantity 10 log G/T is expressed in a unit designated by the symbol dB (K^{-1}), sometimes written incorrectly dBK.

Note 2 to entry: In English, the term "figure of merit" has different meanings in the fields of antennae in general (see IEV 712-02-55), transductors (see IEV 431-02-15) and piezoelectric and dielectric resonators (see IEV 561-01-26).

Note 3 to entry: In French, the term "facteur de qualité" has a different meaning for a two-terminal element or circuit (see IEV 151-15-45), for a resonant circuit (see IEV 151-15-46), for radiation protection purposes (see IEV 395-01-39), in the field of antennae in general (see IEV 712-02-55), and in radiology (see IEV 881-14-03).

712-03-13

contoured-beam antenna

shaped-beam antenna designed in such a way that, when its beam intersects a given surface, the lines of equal power flux density incident upon the surface form specified contours

Note 1 to entry: For a satellite antenna, the area on the surface of the Earth within which the antenna gain is at least equal to a specified value, usually 3 dB, relative to its maximum gain is called “footprint of the beam” (see IEV 725-13-04).

712-04-59

counterpoise, <of an antenna>

system of conductors, elevated above and capacitively coupled to the local earth, to provide the conductive surface for a vertical monopole antenna

712-05-82

artificial dielectric, <for radio waves>

inhomogeneous medium consisting of a regular arrangement of scatterers, usually metallic, embedded in a low-absolute permittivity dielectric medium and which reacts to radio waves in a certain frequency range like a homogeneous dielectric with a permittivity differing from that of the low-permittivity dielectric

712-06-03

balun

See IEV 161-04-34

712-06-11

power divider, <of an antenna>
junction box, <of an antenna>

device with one input and two or more outputs, which produces the desired distribution of power from the feed line to the driven elements of an antenna

Note 1 to entry: The term "junction box" is generally used when a simple power divider is enclosed in a weatherproof housing; see IEV 442-08-03.

712-06-22

antenna simulator
DEPRECATED: dummy antenna

non-radiating dissipative network simulating the input impedance of an antenna over a specified frequency range and used as a load for testing a transmitter

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